



# PATENT SPECIFICATION

608,883

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## COMPLETE SPECIFICATION

### Improvements relating to Aircraft

We, SOCIETE ANONYME BELGE DE CON-  
STRUCTIONS AERONAUTIQUES S.A.B.C.A., a  
Belgian Company, of 13, rue de Brederode,  
Bruxelles, Belgium, and HENRI CORNELIUS,  
5 of Belgian Nationality, of 1, Place Constantin,  
Meunier, Forest-Bruxelles, Belgium, do hereby  
declare the nature of this invention and in  
what manner the same is to be performed,  
to be particularly described and ascertained  
10 in and by the following statement:—

The present invention relates to improve-  
ments in the landing wheels of aircraft and  
relates more particularly to the type of landing  
wheel which is provided with blades or vanes  
15 which serve to rotate the wheel when the  
aircraft is in flight so that the wheels are  
already rotating prior to the aircraft touching  
down. By causing the landing wheels to  
rotate prior to the aircraft touching down the  
20 shock to the wheels and undercarriage is  
considerably reduced.

According to the present invention an air-  
craft landing wheel of the type referred to is  
characterised in that the blades have their  
25 working surfaces substantially normal to the  
medial plane of the wheel whilst their other  
surfaces are inclined in relation to the said  
plane.

Further, according to the invention, a cover  
30 may be provided for the top part of the wheel  
which cover is adjustable to permit control  
of the number of blades exposed to the propul-  
sive force of the air.

One form of the invention is illustrated in  
35 the accompanying drawing in which the figure  
is a perspective view of a landing wheel in  
accordance with the present invention.

Referring to the drawing, a cover 1 in the  
form for example of a hood or spat is provided  
40 on the upper part of the wheel 2 and this hood  
or spat made adjustable so as to control the  
number of blades 3 exposed to the wind. In  
this way the speed of rotation of the wheel  
may be controlled.

45 The landing wheels may be provided with  
known braking arrangements and these brakes  
may be employed if desired to reduce the speed  
of rotation of the wheels before the aircraft  
touches down.

The blades 3 with their two faces are so 50  
arranged that the face 4 lying normal to the  
medial plane in which the wheel lies faces the  
direction in which the plane flies when in the  
lower half of the wheels rotation. The inclined  
face 5 will correspondingly face the direction 55  
in which the plane is flying over the upper  
half of rotation of the wheel and the wind will  
be deflected off this face 5 and so will not  
materially affect the rotation of the wheel 2  
in the correct direction by pressure of the wind 60  
on the blades in the lower half of the wheels  
rotation.

When a spat or mudguard is employed, the  
spat being of the fixed type and not adjustable,  
it may extend to the level of the axis of the 65  
wheel. If, however, it is of the adjustable  
type, it can be made adjustable over sub-  
stantially the whole depth of the wheel.

Having now particularly described and  
ascertained the nature of our said invention and 70  
in what manner the same is to be performed,  
we declare that what we claim is:—

1. An aircraft landing wheel of the type  
referred to characterised in that the blades  
have their working surfaces substantially 75  
normal to the medial plane of the wheel whilst  
their other surfaces are inclined in relation to  
the said plane.

2. An aircraft landing wheel as claimed in  
Claim 1 characterised in that a cover is pro- 80  
vided for the top part of the wheel which cover  
is adjustable to permit control of the number  
of blades exposed to the propulsive force of the  
air.

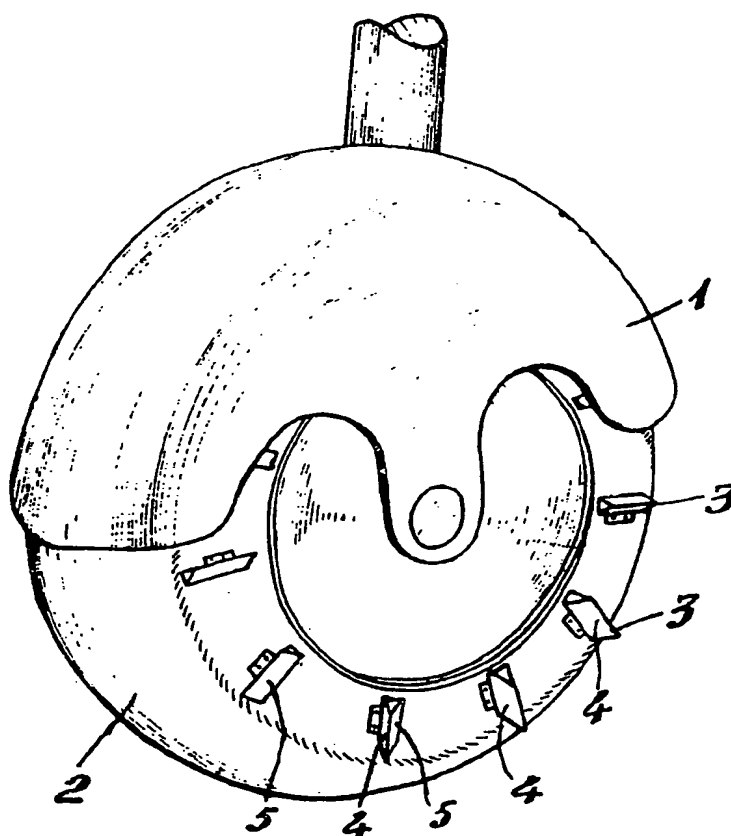
3. An aircraft landing wheel as claimed in 85  
Claim 1 or Claim 2 characterised in that brakes  
are provided on the wheel.

4. An aircraft landing wheel substantially  
as described with reference to the accompanying 90  
drawing.

Dated this 31st day of January, 1946.

HUGHES & YOUNG,  
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*[This Drawing is a reproduction of the Original on a reduced scale.]*



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